

ROTARY SCREW AIR COMPRESSORS

The rotary screw compressors from ELGi are the backbone of varied industrial applications. The range of ELGi rotary screw air compressors are equipped with the eta-V rotors which are designed to offer the best energy efficiency in its capacity range. The rotary screw air compressors have advanced features that offer low cost of ownership, and reliable compressed air supply for light to heavy-duty applications for industries in the Middle East.

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SCREW COMPRESSORS

PISTON COMPRESSORS

ELECTRIC LUBRICATED SCREW AIR COMPRESSOR

EN SERIES SCREW AIR COMPRESSORS 2.2-15 KW

ELGi's EN series oil lubricated screw compressors are known for their reliability, low maintenance requirements, and small footprint, which make them ideal for industrial applications where size, efficiency, and cost matter.

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ELECTRIC LUBRICATED SCREW AIR COMPRESSORS

EQ SERIES SCREW AIR COMPRESSORS 11 – 45 kW

The ELGi EQ Series offers unmatched reliability, built tough for a long-lasting performance. Backed by a best-in-class warranty and requiring minimal maintenance, it stands out as a reliable air compressor for industries where size, reliability, and cost are paramount. These air compressors excel in the most demanding and challenging conditions, providing maximum uptime and extended life. Designed for customer-specific applications, the ELGi EQ Series sets the standard for excellence in compressed air maintenance, delivering exceptional value for small and medium enterprises (SMEs). When you need a reliable compressor that won't break the bank, the EQ Series is your ideal choice.



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ELECTRIC LUBRICATED SCREW AIR COMPRESSOR

EG SERIES SCREW COMPRESSOR

ELGi's EG series compressors represent a giant leap in design and performance, with every component designed for reliability and ease of maintenance. Each compressor is designed and manufactured in compliance with applicable international standards (CE, ASME, UL and others).

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WHAT IS A ROTARY SCREW AIR COMPRESSOR, AND WHAT ARE ITS BENEFITS?

A **rotary air compressor** is, simply, a rotary positive displacement machine capable of high-speed operation over a wide range of operating pressures and flow rates at high efficiencies. In screw air compressors there are no valves or other mechanical forces that can cause unbalance. This allows a compressor to operate at high speeds while combining a large flow rate with small exterior dimensions. The main advantage of using a **rotary type compressor** is that it supplies compressed air continuously with minimum fluctuation in delivery pressure and generates less heat than normal **air compressors**, which improves energy efficiency. Other advantages of using rotary screw air compressors that will help Middle Eastern industries grow include:

- Convenient, as they deliver air continuously for the required purposes, and safe, as the chances of having an accident are minimal.
- Functions at extreme weather conditions as the compressor can work at high temperatures or in low conditions to suit your convenience and at any forms of energy or temperatures levels.
- Lowers maintenance costs drastically.
- Long-lasting, as they have little or no capacity reduction.
- Designed to run tools that generate more power than typical equipment.
- Low noise output machine.
- Minimum oil-carryovers, as low as 3 ppm in **oil lubricated machine**.

ELGi'S ROTARY SCREW AIR COMPRESSOR PROFILE

- ELGi rotary screw air compressor profile consists of several segments, each having a different shape.
- Large positive displacement which increases the pressure by reducing its volume.
- Strong female rotor which helps in more trapping of air and reduction of space continuously.
- Short sealing line that maintains a seal over the entire contact length, which eliminates the need for a sealing strip.
- Better clearance distribution.

WHAT IS THE WORKING PRINCIPLE OF ROTARY SCREW AIR COMPRESSOR?

The Rotary Screw air compressor uses a rotary-type positive-displacement mechanism. The screw element consists of two rotors similar to a helix, each with a different shape and number of grooves/teeth. Atmospheric air is sucked into this screw element, and as the air progresses along the rotors, it gets compressed. The main characteristic of this type of compressor is the rotary action of the male and a female rotor element, which compresses the air as it passes through the airend.

- In an oil-lubricated rotary screw type compressor, the male rotor is driven by the motor or engine, and the female rotor is driven by the male rotor, or the thin film of oil between them.
- In an **oil-free rotary screw type air compressor** a set of gears controls the timing between the male and female rotor. There is no oil to seal the chamber.

The basic principle of a rotary type compressor is that the male and female rotors spin in opposite directions. The prime mover turns the rotor of the airend in a rotary screw air compressor. This develops a vacuum which results in surrounding air being driven into the airends through the air filter. As the rotors turn progressively, the air gets trapped in the spaces between the two screws (rotors).

Air is taken from the atmosphere into the rotary screw compressor through the air intake system. It passes through a filter that helps in removing suspended particles from it. The filtered air goes into the airend, which is the heart of the rotary screw compressor. Here, the air is trapped within the spaces between the two rotors with lobes that mesh with each other. As the rotors turn, they progressively compress the trapped pockets of the air and the compressed air is discharged at the outlet of the airend.

ELGi is one of the leading rotary air compressor manufacturer worldwide. ELGi's **EN & EG series** are best-in-class rotary screw electric air compressors, which have been

LOOKING TO BUY A ROTARY SCREW AIR COMPRESSOR?

Buy the best rotary screw air compressor from ELGi for your pneumatic application

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PRODUCT RELATED ARTICLES

DECODING DUTY CYCLES: ENSURING EFFICIENT AND RELIABLE OPERATION OF PISTON COMPRESSORS

The duty cycle of piston compressors is a critical aspect to understand for an efficient and reliable operation.

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ROTARY SCREW VS. RECIPROCATING AIR COMPRESSORS

Rotary screw compressors and reciprocating compressors are the two most commonly used types of air compressors.

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EVOLUTION OF SCREW AIR COMPRESSORS

The concept of air compressors dates back thousands of years.

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FREQUENTLY ASKED QUESTIONS (FAQs)

How do I order a 5 HP screw compressor?

To purchase a 5 HP rotary screw compressor or inquire about our available models, contact our sales team via phone or email, and they will guide you through the process.

Are your rotary screw air compressors for sale new or used?

What features should I look for when choosing a rotary screw air compressor?

INTERESTED IN OUR SERVICES & PARTS?

From service plans and service networks to Genuine ELGi parts, explore our vast range of services and parts to find exactly what you need. We have our presence with sales and service support of air compressors in Qatar, Saudi Arabia, Bahrain and Oman.

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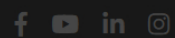
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